

What is claimed is:

1. An electric compressor for flammable gas, comprising:

a housing having a suction port and a discharge port, an inside of the

5 housing serving as a passage for the flammable gas;

an electric actuator sealingly accommodated in the housing; and

a compression unit sealingly accommodated in the housing, the
compression unit being driven by the electric actuator, wherein the suction port is
located closer to the electric actuator than to the compression unit.

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2. The electric compressor according to claim 1, further comprising:

a gas sensor provided in at least one of the suction port and the housing.

3. The electric compressor according to claim 2, wherein at least one gas

15 sensor detects the presence of oxygen.

4. The electric compressor according to claim 2, wherein at least one gas
sensor serves as a sensor for detecting a concentration of a main component of
the flammable gas.

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5. The electric compressor according to claim 4, wherein the concentration
of the main component exceeds an explosive limit concentration around the

electric actuator in the housing.

6. The electric compressor according to claim 5, wherein the flammable gas is hydrogen gas, the hydrogen gas containing more than 75% of hydrogen.

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7. The electric compressor according to claim 1, wherein the suction port is located closer to the electric actuator than to the compression unit and is arranged at an end portion of the electric compressor relative to an axial direction of the electric actuator.

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8. The electric compressor according to claim 1, wherein the flammable gas is hydrogen gas.

9. A flammable gas supply system comprising:

15 an electric compressor arranged in a conduit for the flammable gas, the electric compressor including:

a housing having a suction port and a discharge port, an inside of the housing serving as a passage for the flammable gas;

an electric actuator sealingly accommodated in the housing; and

20 a compression unit sealingly accommodated in the housing, the compression unit being driven by the electric actuator, wherein concentration of the flammable gas in the housing is higher than an

explosive limit concentration.

10. The flammable gas supply system according to claim 9, wherein the suction port is located closer to the electric actuator than to the compression unit

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11. The flammable gas supply system according to claim 10, wherein the suction port is located closer to the electric actuator than to the compression unit and is arranged at an end portion of the electric compressor relative to an axial direction of the electric actuator.

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12. The flammable gas supply system according to claim 9, further comprising:

a gas sensor provided in at least one of the suction port and the housing.

15 13. The flammable gas supply system according to claim 12, wherein at least one gas sensor detects the presence of oxygen.

14. The flammable gas supply system according to claim 12, wherein at least one gas sensor serves as a sensor for detecting a concentration of a main
20 component of the flammable gas.

15. The flammable gas supply system according to claim 12, wherein the

flammable gas is hydrogen gas.

16. The flammable gas supply system according to claim 12, wherein the conduit includes a circulation conduit, whereby the flammable gas circulates to
- 5 flow into the electric compressor.